Claims

1. Use of an inert material with a specific surface of between 10 $m^2/l$ and 10,000 $m^2/l$, with a porosity of between 10% and 80%, with pores of which at least 50% have a pore size of between 0.1 µm and 1000 µm, with grains of which more than 50% have a grain size of between 0.1 mm and 50 mm, and with a water absorption capacity of at least 10% of its own weight, for reducing the salt content in aqueous solutions.

2. Use according to claim 1, whereby the specific surface of the material is between 250 $m^2/l$ and 2500 $m^2/l$.

3. Use according to claim 1 or 2, whereby at least 80% of the pores have a pore size of between 0.5 µm and 100 µm.

4. Use according to one or more of the claims 1 to 3, whereby at least 90% of the grains have a grain size of between 0.1 mm and 50 mm.

5. Use according to one or more of the claims 1 to 4, whereby the open porosity of the material is between 40% and 80%.

6. Use according to one or more of the claims 1 to 5, whereby the inert material is a non-metallic inorganic material.

7. Use according to claim 6, whereby the inert material is a ceramic material.

8. Use according to one or more of the claims 1 to 7, whereby the volume increase of the inert material in the presence of water is less than 10%.

9. Use according to one or more of the claims 1 to 8, whereby the inert material has grains with an irregular form.

10. Method for reducing the salt content in aqueous solutions, comprising the steps
(a) bringing the saline aqueous solution into contact with the inert material defined in one or more of the claims 1 to 9;
(b) bringing the inert material impregnated with water into contact with air at a temperature of between 10°C and 80°C;
(c) transporting the enriched air from step (b) into a condensation chamber, whereby the air is cooled to between 5°C and 40°C, but at least by 5°C;
(d) condensing, in the condensation chamber, of the water absorbed in the air; and
(e) collecting the condensed water.

11. Method according to claim 10, whereby the inert material impregnated with water has air passed through it in step (b) at a flow rate of between 0.1 m/s and 100 m/s.

12. Method according to claim 11, whereby the flow rate of the air is between 2 m/s and 50 m/s.

13. Method according to one or more of the claims 10 to 12, whereby the temperature of the air in step (b) is between 30°C and 60°C.

14. Apparatus for the reduction of the salt content in aqueous solutions, comprising a container (4) which is suitable for accommodating the inert material defined in one or more of the claims 1 to 9, whereby the container (4) is provided with an opening for feeding in air, a device for feeding the aqueous solution to the porous material and with an opening for removing the air (5), and whereby the opening for removing the air is linked to a condensation chamber (6) equipped with apparatus for condensing and collecting the water (7).

15. Apparatus according to claim 14, whereby a blower (1) is provided for the air supply.

16. Apparatus according to claim 14 or 15, whereby for the feeding of the aqueous solution, a supply container (2) is provided.